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**SHARP COMPET  
ELSI-MATE**

ELECTRONIC CALCULATOR

**EL-122**

**INSTRUCTION MANUAL**

Printed in Japan



### WARRANTY

This Sharp calculator was inspected and thoroughly tested before shipment. It is important that the operating instructions be read carefully before using this calculator.

For a period of one (1) year from the date of purchase, we will repair without charge, any part of this product found to be defective due to materials or workmanship if it is returned either to the place of purchase or to a Sharp Factory Service Center on the back.

After one (1) year from date of purchase, a reasonable charge will be made for repair.

This warranty is void if this product has been subject to misuse or abuse, improper voltage, or has been tampered or repaired by unauthorized person.

#### — IMPORTANT —

This warranty is valid only if accompanied by the proof of purchase showing date of purchase, model and serial numbers.

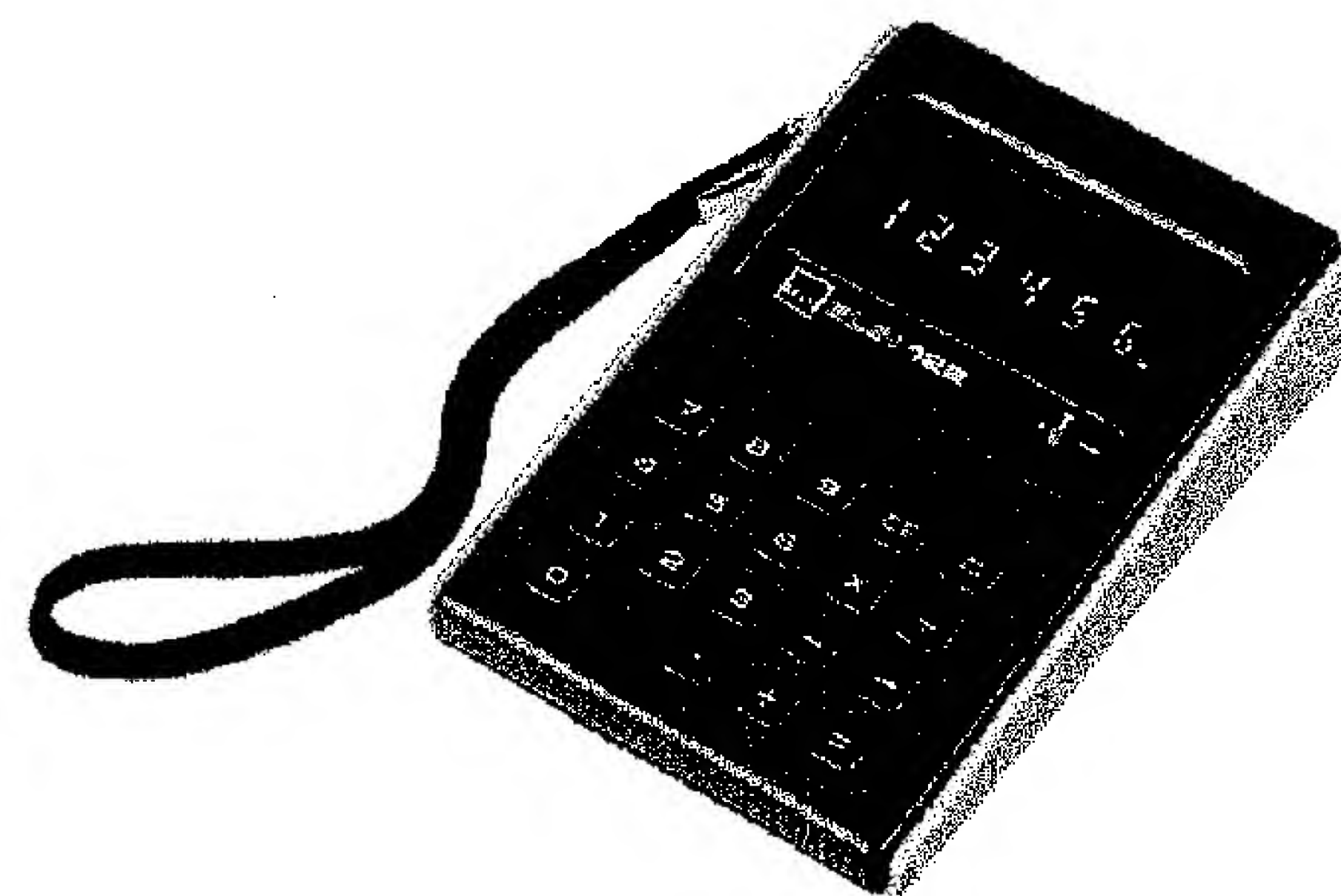
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## INTRODUCTION

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Small, fast, and easy. That's our new handy pocket size EL-122. Yet you can perform complicated calculations up to 12 digits by pressing the upper/lower digits recall key (  ). Deep-think extras include tax/discount calculation, zero suppress system, algebraic operation, power calculation and many others.

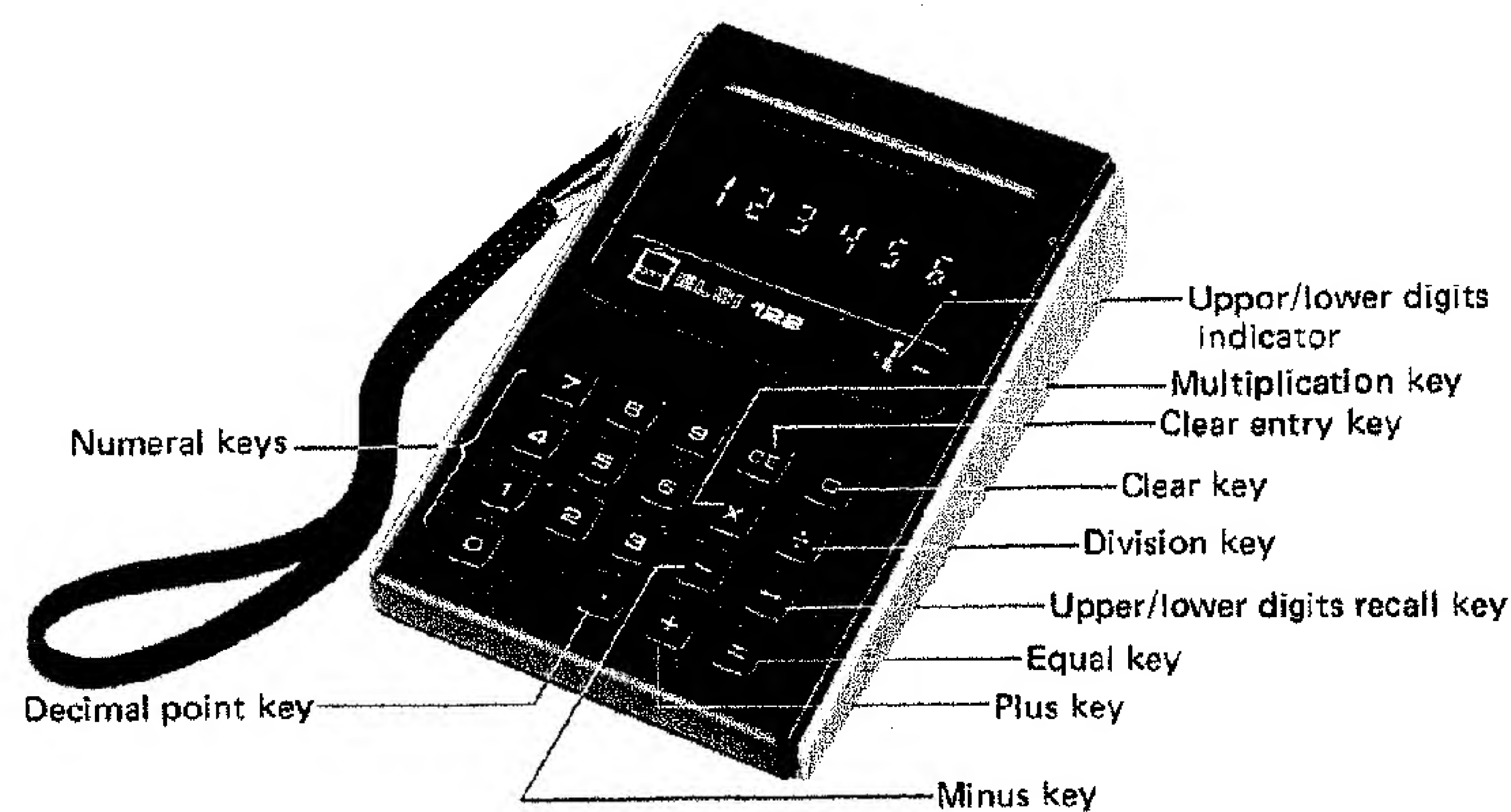
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## OUTSTANDING FEATURES

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- ★ Enters and calculates up to 12 digits with double capacity system.
- ★ Easy-to-read zero suppress system.
- ★ Overflow error-check device.
- ★ Easy-to-operate algebraic operation.
- ★ Convenient tax/discount calculation
- ★ Automatic constant calculation
- ★ Chain calculation
- ★ Power calculation
- ★ Repeat addition & subtraction

KEY LAYOUT CHART



- Upper/lower digits indicator ( ↔ )
  - 1) The lower digits indicator turns on when the lower portion of the number (the last 6 digits) is in the display.
  - 2) When the lower portion of the number is in the display and the + ( − , × , ÷ , C , CE ) key is pressed, the display will automatically change back to the upper (or first) 6 digits. The lower digits indicator will turn off when this occurs.
  - 3) The lower digits indicator will not turn on when an overflow error is detected.

Ex.

Operation	display	note
123456	123456.	
78	78. ( ↔ )	lamp on
+	123456	
↔	78. ( ↔ )	lamp on
↔	123456	
x	123456	
0		
=	0.	

## OVERFLOW ERROR

When an overflow error is detected, All digits will be filled with zero. An overflow error electronically interlocks all keys except the **C** key.

An overflow error is released by pressing the **C** key. An overflow error occurs in the following cases.

1. When the integer portion of sum, difference, product or quotient exceeds 12 digits.
2. When a number is divided by zero.

(NOTE) Entries of more than 12 digits are ignored but the function keys are effective. In this case an overflow error is not detected.

Ex. 1 999999999999 + 1

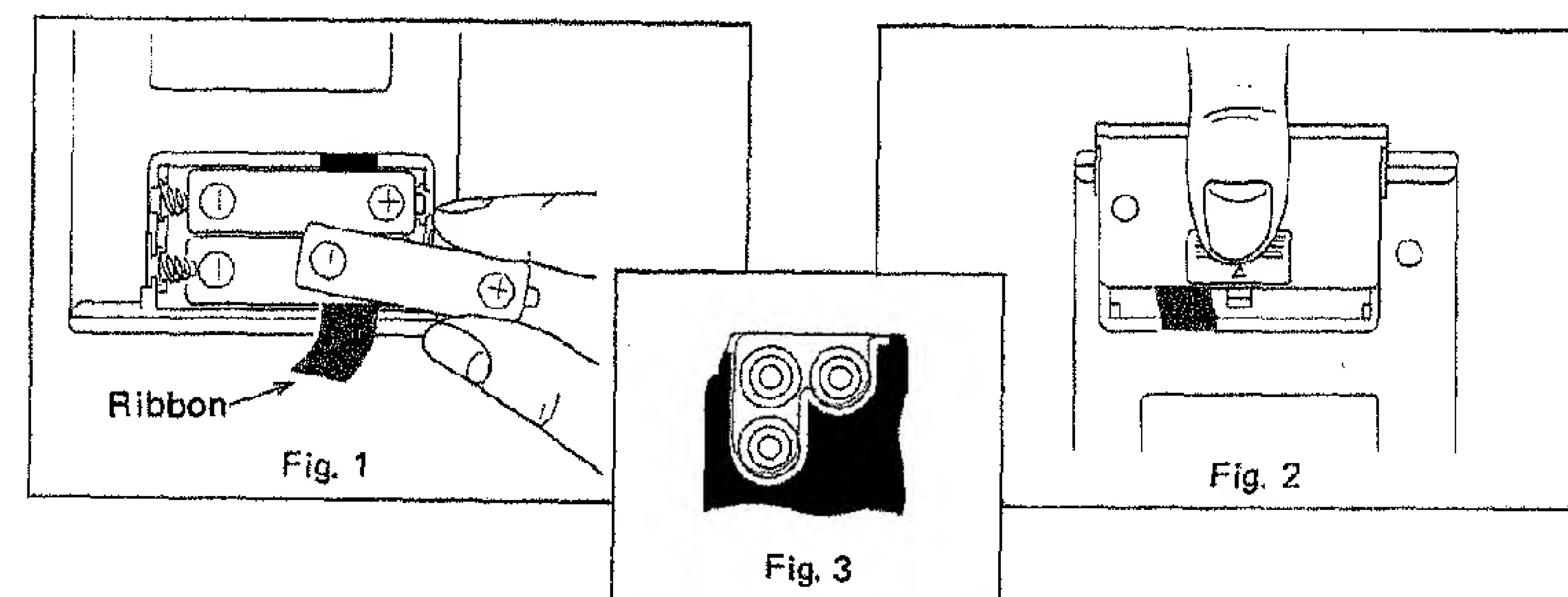
Operation	display	note
999999	999999.	
999999	999999. (↔)	lamp on
<b>+</b>	999999	
1	1.	
<b>=</b>	000000	error

Ex. 2 888888 x 77777777

Operation	display	note
888888	888888.	
<b>x</b>	888888.	
77777777	77. (↔)	lamp on
<b>=</b>	000000	error

## HOW TO REPLACE THE DRY BATTERY

1. Slide a battery cover in the direction of an arrow mark and take it out. (Fig. 2)
2. First, send the ribbon to the bottom. Put SUM-3E type dry battery (x3) in the unit. (Fig. 1) Take care not to mistake the battery polarity.
3. Slide the battery cover into the unit.



OPERATIONS

(1) Entry numbers

- (1) The number is displayed starting from the most significant digit to the least significant digit. Unnecessary zeros of decimal portion are not displayed.
- (2) When the entry number exceeds 6 digits, the upper 6 digits will automatically disappear and the lower digits will appear on the display panel.  
The presence of entry numbers can be confirmed by the indication lamp (↔).
- (3) The entry numbers over 12 digits are neglected. In this case an overflow error is not detected.

Ex.

Operation	display	note
1	1	
2	12.	
3456	123456.	
7	7. (↔)	lamp on
89012	123456 (↔)	lamp on
3	789012. (↔)	lamp on 3 isn't entered.
0.	0.	
123456	123456.	
789012	123456. (↔)	lamp on
44	789012 (↔)	lamp on 4 isn't entered.

(2) Minus sign indicator

When the result of a calculation is negative, minus sign indicator is displayed at the most significant digit of the display panel. Accordingly the display capacity for a negative number becomes a maximum of 11 digits; but the calculation register contains 12 digits.

Ex. 123456789012 - 246802468024 + 246802468024 = ?

Operation	display	note
123456789012	789012. (↔)	lamp on
246802468024	123456 (↔)	lamp on
	468024. (↔)	lamp on
	-12334 (↔)	lamp on 2. isn't displayed.
246802468024	567901 (2.) (↔)	lamp on
	468204. (↔)	lamp on
	123456 (↔)	
	789012. (↔)	lamp on

Examples	Operations
<b>Addition &amp; Subtraction</b> $123 + 456 - 789 = -210$ $123 + 456 + 456 + 456 + 456 = 1947$	$123 \text{ + } 456 \text{ - } 789 \text{ = } \rightarrow (-210.)$ $123 \text{ + } 456 \text{ = } \text{= } \text{= } \text{= } \rightarrow (1947.)$
<b>Multiplication &amp; Division</b> $5 \times 9 = 45$ $5 \div 9 = 0.55555 \dots\dots\dots$ $1.23 \times 4.56 \div 7.89 = 0.71087 \dots\dots\dots$	$5 \text{ x } 9 \text{ = } \rightarrow (45.)$ $5 \text{ : } 9 \text{ = } \rightarrow (0.55555) \text{ = } 55555 (\leftrightarrow) *$ $1.23 \text{ x } 4.56 \text{ : } 7.89 \text{ = } \rightarrow 0.71087$ $\text{= } 452471 (\leftrightarrow) *$ <i>*lamp on</i>
<b>Constant calculation</b> $5 \times 9 = 45$ $5 \times 6 = 30$ $5 \times 3 = 15$	$5 \text{ x } 9 \text{ = } \rightarrow (45.)$ $6 \text{ = } \rightarrow (30.)$ $3 \text{ = } \rightarrow (15.)$

Examples	Operations
$5 \div 9 = 0.55555 \dots\dots\dots$ $6 \div 9 = 0.66666 \dots\dots\dots$ $3 \div 9 = 0.33333 \dots\dots\dots$	$5 \text{ : } 9 \text{ = } \rightarrow (0.55555)$ $6 \text{ : } \rightarrow (0.66666)$ $3 \text{ : } \rightarrow (0.33333)$
$5 + 6 = 11$ $7 + 6 = 13$ $3 + 6 = 9$	$5 \text{ + } 6 \text{ = } \rightarrow (11.)$ $7 \text{ = } \rightarrow (13.)$ $3 \text{ = } \rightarrow (9.)$
$5 - 6 = -1$ $7 - 6 = 1$ $3 - 6 = -3$	$5 \text{ - } 6 \text{ = } \rightarrow (-1.)$ $7 \text{ = } \rightarrow (1.)$ $3 \text{ = } \rightarrow (-3.)$
<b>Tax/discount calculation</b> $100 - (100 \times 20\%) = 80$ $100 + (100 \times 20\%) = 120$	$100 \text{ x } 0.2 \text{ - } \text{= } \rightarrow (80.)$ $100 \text{ x } 0.2 \text{ + } \text{= } \rightarrow (120.)$



Examples	Operations
<b>Power calculation</b> $2^2 = 4$ $2^3 = 8$ $2^4 = 16$ $2^5 = 32$	$2 \times \text{[ ]} \rightarrow (4.)$ $\text{[ ]} \rightarrow (8.)$ $\text{[ ]} \rightarrow (16.)$ $\text{[ ]} \rightarrow (32.)$
<b>Reciprocal calculation</b> $1/5 = 0.2$	$5 \div \text{[ ]} \rightarrow (0.2)$
<b>Correcting mistakes</b> $5 + 6 = 11$ $5 \times 8 = 40$	$5 + 6 \text{ [ ] } 7 \text{ [ ]} \rightarrow (12.)$ $5 \times 9 \text{ [ ] } 8 \text{ [ ]} \rightarrow (40.)$

NOTE: Function key correction

operation  
Ex.  $123 \times 456 = 56088$   $123 \text{ [ ] } 456 \text{ [ ]} \rightarrow (56088.)$   
When the  $\text{[ ]}$  key is pressed by mistake, press the  $\text{[ ]}$  key to correct the mis-operation.  
The function key pressed last is effective.  
But in a special key operation such as tax or discount calculation, function key correction can not be performed.

## SPECIFICATIONS

Type:	Electronic display-type calculator
Power source:	Dry battery operation, SUM-3 x 3 Operates for 10 hours on three manganese dry batteries. .... (at 20°C) (Slightly changes according to the kinds of the batteries and the way of use.)
Display:	AC operation with AC adaptor Itron
Capacity:	Entries of up to 12 digits Calculates up to 12 digits on all arithmetic calculations. (11 digits in case of a negative number.)
Decimal point:	Complete floating decimal point positioning
Sign indicator:	Minus sign indicator ( - ) Lower digits indicator (↔)
Calculation:	4 arithmetic calculations, constant multiplication/division, chain multiplication/division. Square calculation, Power calculation, Tax/discount calculation, repeat addition/subtraction, mixed calculation
Temperature:	0°C ~ 40°C
Components:	LSI, etc.
Power consumption:	DC: 0.5W
Dimensions:	3-7/16"(W) x 1-9/16"(H) x 5-5/8"(D)
Weight:	0.55 lbs. (with dry batteries)



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